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Date: August 30, 1988

JOB NUMBER: 105-01
JOB TITLE: Colbert Landfill
LOCATION: Spokane, WA

TO: Mr. Neil Thompson
EPA Superfund
1200 6th Ave.
Park Place Building
Seattle, WA 98101

WE ARE SENDING HEREWITH:

Copies	Description
1	Draft Request for Preauthorization

[xx] For Your Review/Information
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REMARKS: This draft does not include minor edits, nor has it been reviewed by the County Legal Staff, so it is still subject to revision. However, basic content should remain the same.

LANDAU ASSOCIATES, INC.
By: Larry Beard
Larry D. Beard

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REQUEST FOR FUNDING PREAUTHORIZATION FOR THE HAZARDOUS SUBSTANCE RESPONSE TRUST FUND BY SPOKANE COUNTY FOR THE COLBERT LANDFILL REMEDIAL ACTION

Section III(a)(2) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), authorizes the Hazardous Substance Response Trust Fund (Fund) to reimburse potentially responsible parties (PRPs) for costs incurred as a result of carrying out the National Contingency Plan (NCP). In order to qualify for reimbursement, the requesting party must seek and obtain prior approval (preauthorization) from the Environmental Protection Agency (EPA) administrator for the proposed remedial action. Spokane County is a PRP eligible under Section 111(a)(2) of the CERCLA, 42 U.S.C. 9611(a)(2), for reimbursement of "necessary response costs incurred...as a result of carrying out the National Contingency Plan." To fulfill the requirements for reimbursement, Spokane County is filing this request for preauthorization for cost recovery from the Fund related to the Colbert Landfill remediation. This request is for $1,400,000, which represents approximately 10 percent of estimated ~~cleanup~~ design, construction, and start-up costs for this action.

INTRODUCTION AND SITE DESCRIPTION

The Colbert Landfill is a sanitary landfill located in northeastern Washington approximately 15 miles north-northwest of the City of Spokane. Situated in the southwest corner of Section 3, Township 27 North, Range 43 East, W.M., the landfill covers 40 acres. It is about two and one-half miles north of the Town of Colbert and one-half mile east of U.S. Highway 2 (Newport High-

way) in the northeastern quadrant of the intersection of Elk-Chattaroy, Yale, and Big Meadows Roads. Owned and operated by Spokane County (The County), the Colbert Landfill opened in 1968 and received both municipal and commercial wastes until 1986. The landfill is now filled to capacity and is no longer receiving wastes.

The remedial action site, the area of potential impact surrounding the landfill, extends north of the landfill about one-half mile, west about one mile to the Little Spokane River, east a similar distance, and south approximately five miles to Peone Creek (also known as Deadman Creek). The total remedial action area is approximately 6800 acres (10 sq mi) and includes parts of Sections 2, 3, 10, 11, 14, 15, 16, 21, 22, 23, 26, 27, 28, 33, 34,and 35 in T 27 N, R 43 E. The site, located on a plateau bounded by steep bluffs on the west and low granite and basalt hills to the east, drains west to the Little Spokane River. The climate is characteristic of eastern Washington, with temperatures ranging from typical summer highs of about 83° F to winter lows of around 23° F. The relatively low annual precipitation of approximately 17 inches falls mainly during the winter months of November through February (NOAA 1985).

The geology of the site consists of a series of glacially-derived materials deposited on an eroded landscape of clays, basaltic lava flows, and granitic bedrock. The stratigraphic units (layers) as described in the Remedial Investigation (RI) (Golder Associates, Inc., 1987), from youngest to oldest (i.e., from the top down), are:

Unit Description

A. Glacial outwash/Missoula flood sands/gravels;

B. Glacial Lake Columbia lacustrine silts/clays;

C. Older glaciofluvial and/or alluvial sands/gravels;

D. Weathered basalts and Latah (landslide deposits);

E. Unweathered Latah silts/clays;

F. Granite bedrock.

This specific geologic system can be hydrogeologically defined as containing three aquifers and three aquitards. There is an aquifer associated with Unit A, the glacial outwash/ Missoula flood deposits, which is designated as the upper sand/ gravel aquifer. Unit B, the lacustrine silts/clays stratum, is a relatively impermeable layer which acts as an aquitard. The second aquifer, located in Unit C, the older glaciofluvial and/or alluvial deposits, is called the lower sand/gravel aquifer. The weathered zone of the basalts and Latah, Unit D, may be considered an extension of the lower aquifer. The unweathered Latah silts/clays, Unit E, serves as the second aquitard. The upper fractured zone of the granite, Unit F, is capable of water transmission and, although a poor producer in most areas, it could be considered as an aquifer while the deeper, less fractured portions of the bedrock serve as the confining lower boundary or aquitard to the entire regional flow system.

The upper aquifer is unconfined with a water table at an approximate elevation of 1,770 feet (MSL), 90 feet below ground surface in the area of the landfill. The thickness of the upper aquifer varies from 8 to 15 feet in the central channel, decreasing as it extends toward the western bluffs and eastern

hills. Ground water flows predominately toward the south with velocities ranging from 4 to 13 feet per day (ft/day). The lower aquifer is generally a confined system, with its potentiometric surface at an approximate elevation of 1,680 feet (MSL), 180 feet below ground surface in the area of the landfill. The thickness of the lower aquifer varies considerably from only a few feet thick east of the landfill, to over 150 feet thick as it approaches the Little Spokane River valley where the aquifer is hydraulically connected with the river. Ground water in this lower sand/gravel aquifer flows predominantly toward the west at velocities ranging from 2 to 12 ft/day. Northeast of the landfill, the lower aquifer is closer to the surface and becomes unconfined, interconnecting with the upper aquifer.

The Colbert Landfill was operated as a sanitary landfill by the Spokane County Utilities Department. It was opened in September 1968 and operations ceased in October 1986. During the five years from 1975 to 1980, a local electronics manufacturing company, Key Tronic Corporation (Key Tronic), used the Colbert Landfill to dispose of spent organic solvents, mainly methylene chloride (MC) and 1,1,1-trichloroethane (TCA), at an average rate of several hundred gallons a month (See Appendix A: ROD, Table 1, for approximate disposal volumes). These wastes were typically brought to the landfill in drums which were emptied into open trenches to mix with the soil or municipal refuse already in the trench. A nearby military facility, Fairchild Air Force Base, also disposed of various solvent wastes at the site. Hazardous substances detected in the ground water at

the site were also disposed of by a number of other parties, including Alumax Irrigation Products, A&M Manufacturing, and United Paint, Inc. A variety of other chemicals (such as pesticides and refinery tar residues) from other sources were also disposed at the site but have not, to date, been detected in the ground water at the site.

In 1980, nearby residents complained to the Eastern Regional Office of the Washington Department of Ecology (Ecology) about disposal practices at the landfill. State and county officials, under the lead of the Spokane County Utilities Department, initiated an investigation into complaints of ground water contamination in the area by sampling nearby private wells. The results of this initial investigation indicated that some of these wells were contaminated with TCA.

Since 1980, additional studies have been directed toward the contamination problem at the Colbert Landfill. The first study (Maddox 1981), initiated in response to citizen complaints, included a review of existing information on the site and some field study, and recommended a ground water monitoring program. Further studies, conducted in 1982 (Maddox 1982), involved monitoring well installation, injection tests, and two rounds of ground water quality sampling and analysis. This study included sampling of selected private and purveyor wells.

In August 1983, the EPA placed the Colbert Landfill site on its National Priorities List (NPL). CH2M Hill was then contracted by EPA to develop a Remedial Action Master Plan (CH2M Hill 1983). This plan presented a scope of work for the eventual Remedial Investigation/Feasibility Study (RI/FS). During this

period, the County and Key Tronic continued sampling and analysis of well waters around the landfill (Spokane County and Key Tronic 1986).

Beginning in 1984, bottled water supplies were distributed by the County and Key Tronic to those households with high contamination levels in their wells. Ecology entered into a cooperative agreement with the EPA for conducting a RI/FS at the Colbert Landfill site in August 1984. A "Focused Feasibility Study for Initial Remedial Measures at the Colbert Landfill" (Ecology 1984a) was conducted and a "Community Relations Plan for Remedial Measures at the Colbert Landfill" (Ecology 1984b) was initiated in June 1984. The chosen Initial Remedial Measure (IRM) was to supply water to the affected area by constructing a pressurized water system through the Colbert Extension (System 9) of the Whitworth Water District No. 2. Hook-up of affected residents to this system was subsidized by two of the PRPs (the County and Key Tronic), contingent on three conditions:

- Well water contamination of more than 200 ug/l TCA;
- Proximity (less than 500 feet) to water supply mains; and
- Execution of a hold-harmless agreement.

Other residents not meeting these conditions have also elected to receive this water at their own expense.

Ecology contracted Golder Associates, Inc. (Golder) to conduct a data review of the Colbert Landfill site. A recommendation report was submitted in December 1984 (Golder Associates, Inc.1984), and a work plan for the Remedial Investigation (RI) was submitted in January 1985. Authorization to conduct the RI

was received in March 1985. A draft RI report was released for public review in May 1986 and the final RI report was completed in May 1987 (Golder Associates, Inc. 1987).

The primary contaminants detected in the ground water at the Colbert Landfill site during the RI were six volatile organic chemicals, all chlorinated aliphatic hydrocarbons (Golder Associates 1987). These contaminants are listed in Table 1. Several other contaminants were also detected in the RI samples, but occurred at lower concentrations or were less widely distributed (see Table 1). Because they behaved similarly to the primary contaminants, they were not considered separately for remediation. Although the contaminants placed into the landfill traversed a considerable thickness of unsaturated soil to reach the ground water, only trace concentrations of these chemicals were found in soil samples from the landfill itself obtained during the RI drilling program.

In April 1986, Ecology authorized Golder to prepare a FS based upon the RI. The FS was performed by Golder and a subcontractor, Envirosphere Company, with input from Hall and Associates. The FS Final Report was submitted for public comment in May 1987 (Golder and Envirosphere 1987).

Prior to design and construction of the final remedial action, additional site characterization will be required (termed Phase I in the Draft Consent Decree Scope of Work [Landau Associates 1987]). Consequently, it will not be possible to describe in detail some aspects of the remedial action requested

TABLE 1

ORGANIC CONTAMINANTS FOUND IN COLBERT LANDFILL SITE GROUND WATER DURING REMEDIAL INVESTIGATION

Contaminant	Number of Wells	Maximum Concentration (ug/l)*
Major Contaminants		
1,1,1-Trichloroethane (TCA)	20	5,600
1,1-Dichloroethylene (DCE)	19	190
1,1-Dichloroethane (DCA)	19	600
Trichloroethylene (TCE)	11	230
Tetrachloroethylene (PCE)	9	23
Methylene Chloride (MC) (also called Dichloromethane)	11	2,500
Lesser Contaminants		
Acetone (also called Propanone)	3	445
Chloroform (also called Trichloro-methane)	11	6
Methyl Ethyl Ketone (also called 2-Butanone)	2	14
1,2-Dichloroethane (also called Ethylene Dichloride)	2	5
1,2-trans-Dichloroethylene	5	12
Toluene (also called Methyl Benzene)	2	<1

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* In this report, all organic contaminant concentrations will be presented in units of micrograms (ug) of chemical per liter (l) of water. This conventional unit of measurement is essentially equivalent to parts per billion (ppb).

in the preauthorization guidance document (EPA 1988). However, the Draft Consent Decree Scope of Work (Scope of Work) provides a detailed framework for the remedial action and documents the review and approval authority of the EPA for aspects of remedial action not addressed within the RI/FS or the ROD. The ROD and the Scope of Work are included as Appendices A and C, respectively. Due to its size, a copy of the RI/FS is not included.

CONSENT DECREE AND NATURE OF SETTLEMENT

A ~~joint~~ EPA/~~Ecology~~ PRP study report resulted in notice letters being sent to 12 parties. Four of these parties were ultimately identified as PRPs. These include: the County, Key Tronic, the United States Department of Defense (the Air Force), and Alumax. A consent decree has been agreed to in principle between the Governments (EPA and Ecology), the County, and Key Tronic. The Air Force has also settled with the Governments, the terms of which are embodied within a separate Consent Decree. Alumax has not agreed to execute the Consent Decree.

Key Tronic and the County have proposed a settlement in which the County will perform the remedy selected by EPA, as set out in the Scope of Work, and Key Tronic will pay the amount of $4,200,000 into a trust fund for remediation of the Colbert Landfill site (Trust Fund). Key Tronic's payments will be made under the schedule contained in Section VIII of the Consent Decree. The Air Force has agreed to pay $1,450,000 ~~into the Trust Fund~~ toward the RA. The County will contribute the remainder of the monies required to accomplish the remedial action.

EPA ~~has agreed~~ intends to cost-recover against Alumax if Alumax does not ultimately execute the Draft Colbert Landfill Consent Decree (Consent Decree). ~~The EPA will, in this instance, reimburse the County for Alumax's apportioned share of the cost, which has been set by the EPA~~ in the Consent Decree at $1,450,000.

Ecology has agreed to contribute $660,000, including previously incurred Ecology expenses. The County will also be eligible to receive an unspecified amount of future state grant monies and mixed funding.

The Consent Decree specifies that the remedy will be implemented by the County. The Trust Fund will be funded by monies provided ~~primarily~~ by Key Tronic, the Air Force, and the County. In accordance with the Consent Decree, the County seeks reimbursement for $1,400,000 from the Fund.

The parties intend to ~~file~~ lodge the Consent Decree (attached hereto as Appendix B) with the United States District Court for the District of Eastern Washington. After the Consent Decree has been approved and entered by the Court, the County will be obligated to carry out its terms and to implement the remedy selected by EPA in its Record of Decision (ROD; USEPA 1987) and ~~described~~ specified in the Scope of Work. Moreover, the County fully intends to undertake and complete the clean-up of this site in a timely manner.

REMEDY

Background

Spokane County proposes to implement a performance-based pump, treat, and discharge approach for remediation of contami-

nated ground water emanating from the Colbert Landfill site. This is the remedy selected by the EPA in its ROD. As discussed in the ROD, a number of treatment options are acceptable, provided the selected option meets the performance criteria. Spokane County is proposing to implement the EPA-selected option, using air stripping for treatment. The pump and treat remedy, as stated in the ROD, is designed to:

- o prevent further spread of contaminated ground water (in the south and west) in two aquifers by installing and operating interception wells;
- o remove contaminated materials (in the east) which have entered the aquifers and are contributing to the contamination plume, by installing and operating extraction wells in the area where the plumes originate;
- o reduce the toxicity, mobility, and volume of the contaminants by treating all extracted ground water from both interception and extraction wells; and
- o provide an alternate water supply system to any residents deprived of their domestic supply due to demonstrated contamination from the landfill or due to the action of the extraction or interception systems.

The selected remedy is based on the RI/FS, which examined several remedial options including:

- o no action;
- o alternate water supply;
- o point of entry treatment; and

- o ground water extraction, treatment, and discharge (using various technologies for each), plus an expanded water system.

Each of these alternatives was considered separately in three geographic portions of the site:

- o the south area, where a contaminant plume is advancing to the south in the upper aquifer;
- o the west area, where a contaminant plume in the lower aquifer is the major concern; and
- o the east area, where the plumes appear to originate.

About 90 different technologies were screened and evaluated during the feasibility study. As a result of this analysis, 26 remedial alternatives were carried through a detailed evaluation using thee EPA's 1985 RI/FS factors (EPA 1985): 12 for the south area, and 7 each for the west and east areas.

Selected Remedy

The remedy selected by the EPA in the ROD, as described in the Scope of Work, includes the following components:

- o In the south area, a series of extraction wells will be installed at the southern (downgradient) edge of the contaminant plume to intercept the contaminant plume in the upper aquifer;
- o In the west area, a series of extraction wells will be installed to minimize future westward migration of contamination in the lower aquifer; and

- In the east area, where the plume originates, extraction wells will be installed for contaminant source control in the lower aquifer.

Contaminated ground water will be extracted using deep wells. All three systems will be designed to treat extracted water to the ROD specified performance standards employing air stripping as the method of treatment. Options for disposal of treated water include discharge to the Little Spokane River (all systems), subsurface recharge (south and east systems), and discharge to Deep Creek (south system). Each of the extraction systems will include a comprehensive ground water monitoring program designed to evaluate system effectiveness. The extraction, treatment, discharge, and monitoring programs are described in detail in the Scope of Work. Additional related remedial action components, also described in the Scope of Work, include:

- closure of the Colbert Landfill;
- comprehensive ground water supply well monitoring program and alternate water supply plan; and
- institutional controls on the future use of ground water in the area.

The remedial action will be implemented in phases. Phase I is designed to better characterize contaminant distribution and site geohydrology. Following completion of the Phase I investigation, design of the (Phase II) remedial action will be accomplished. The ROD provides for a performance-based design, allowing flexibility in the remedial approach. Specific performance criteria were presented in the ROD (Table 1 Performance

Standards) and have been further refined in the Scope of Work (Tables IV-1 and V-1). The Scope of Work details the bases for design, the design criteria, and criteria for adjustment and modification of the remedial action if the design criteria are exceeded during operation. Thus, the Scope of Work provides the bases for remedial action design.

Applicable and Relevant Standards

The EPA has evaluated the pump, treat, and discharge remedial approach and determined that it adequately protects human health and the environment and complies with applicable or relevant and appropriate public health or environmental requirements (ARARs). As specified in the ROD, the laws and regulations of concern include:

- Resource Conservation and Recovery Act (RCRA, 42 USC 6901); RCRA regulations (40 CFR 261 to 280); Washington State Dangerous Waste Regulations (WAC 173-303); Minimum Functional Standards for Solid Waste Handling (WAC 173-304).

- The selected remedy prevents further spread of ground water contamination and constitutes a Corrective Action program as specified in 40 CFR 264.100 and WAC 173-303-645(11). Closure of Colbert Landfill to State Minimum Functional Standards will be evaluated to ensure consistency with RCRA landfill closure standards.

- Safe Drinking Water Act (SDWA, 42 USC 300); Primary Drinking Water Standards (40 CFR 141).

The selected remedy prevents exposing the public to drinking water which exceeds the Maximum Concentrations Levels.

- Clean Water Act (CWA, 33 USC 1251); National Pollution Discharge Elimination System (NPDES, 40 CFR 122); NPDES Permit Program (WAC 173-220).

  The selected remedy treats the extracted water before discharge to surface water. Other, mainly procedural, aspects of the NPDES Permit system will be met during the design phase, although no permit is actually required.

- Rules and Regulations of the State Board of Health Regarding Public Water Systems (WAC 248-54).

  Enhancements to the alternate water supply system, in order to supply all residents who may require these supplies, will be in conformance with these regulations."

Since the remedial action will implement a ROD selected remedy and a public comment period was required as part of the ROD process, the requirement for adequate notice and opportunity for public comment on the proposed remedy has been fulfilled.

DEVELOPMENT OF THE DESIGN PACKAGE

Consultant Selection

A consultant will be responsible for developing the remedial action pilot study and design for the project. Selection of the consultant will be based on the demonstrated competence and qualifications of prospective consultants to perform the required services at a fair and reasonable price. The process of consul-

tant selection was initiated on February 8, 1988, when Spokane County advertised a Request for Professional Qualifications (RFQ). In response, nine firms submitted a Statement of Professional Qualifications (SOQ). The SOQ's were evaluated and a short-list of the five best qualified firms was identified. The next step in the selection process will be to issue a Request for Proposal (RFP) to the short-listed firms, which will be accomplished following lodging of the Consent Decree.

A copy of the ROD, RI/FS, and Scope of Work will be provided to each short-listed firm for use during proposal preparation. Proposals will be evaluated and the three most qualified firms will be ranked in order of qualification. This process typically requires 60 to 90 days. As a "Local Agency", the County must meet Washington State Regulations for Contracts for Architectural and Engineering Services, as set forth in the Revised Code of Washington (RCW 39.80). A copy of these regulations is included in Appendix D. The consultant selection criteria will also meet federal procurement guidelines (40 CFR part 33), in particular Section 33.525 (optional selection procedure for negotiation and award of subagreements for architectural and engineering services). Upon selection of the most qualified firm, the County will attempt to negotiate a design contract with that firm. If the County is unable to negotiate a fair price with the most qualified firm, it will begin negotiations with the next qualified firm. Once a contract is negotiated, implementation of the Scope of Work will begin.

Design Elements

Phase I, which is intended to better characterize contaminant distribution and site geohydrology for the Phase II interception system design, will be developed based on the RI/FS, the ROD, and Scope of Work. Components of the Phase I design, as described in the Scope of Work, for each project area include:

- o South System: Installation of a pilot ground water extraction and treatment system; installation of a ground water monitoring system to identify the location of the contaminant plume and assess the performance of the pilot system; assessment of treated water discharge management options; and definition of the Phase II - South ground water interception and treatment system;
- o West System: Installation of a pilot ground water extraction and treatment system; installation of a ground water monitoring system to identify vertical and horizontal hydraulic gradients, determine the current location and distribution of the contaminant plume, and assess the performance of the pilot extraction system; assessment of treated water discharge management options; and definition of a Phase II - West ground water interception and treatment system; and
- o East System: Installation of two pilot ground water extraction wells and a common treatment system; installation of a ground water monitoring system to improve definition of the location of the contaminant plume and assess the performance of the pilot systems; assessment of treated water discharge

management options; and definition of the Phase II - East ground water extraction and treatment system.

As documented in the Scope of Work, all work accomplished during Phase I will be performed in accordance with work plans subject to the review and approval of the EPA. The following Phase I work plans will be provided:

- o Health and Safety Plan;
- o Quality Assurance Project Plan;
- o Phase I Pilot Well Plan;
- o Phase I Ground Water Monitoring Plan; and
- o Phase I Treatment and Discharge Plan.

Phase I progress reports will be submitted for EPA review, either monthly periodically ~~or~~ and at the completion of major project milestones. The activities accomplished during Phase I, conclusions resulting from these Phase I activities, and an assessment of the impact of these conclusions on the selected remedial action will be presented for EPA review in the Phase I Engineering Report.

Following completion of the Phase I investigation, design of the remedial action (Phase II) will be accomplished. In the Phase II design, the consultant will develop the final design for the extraction, treatment, discharge, and monitoring systems for the south, west, and east project areas.

Preliminary remedial action design will be accomplished as part of the Phase II work plan preparation for the various remedial action components. Phase II Work Plans will include:

- o Phase II Extraction Well Plan;
- o Phase II Ground Water Monitoring Plan; and

- o Phase II Treatment and Discharge Plan.

Peripherally related work plans that may be submitted at the same time as the Phase II work plans include:

- o Landfill Closure Plan;
- o Alternative Water Supply Plan; and
- o Plan for Institutional Controls.

Following Government review of the work plans, Phase II Plans and Specifications will be prepared and submitted for Government review to complete the remedial action design package.

Schedule

Spokane County intends to accomplish the design and construction of the remedial action in a timely manner. However, a specific schedule cannot be developed until certain legal aspects (such as entry of the Consent Decree) are completed and additional (Phase I) data are collected and analyzed. The bases for developing the schedule for (Phase I and Phase II) remedial action are contained within the Scope of Work.

As described in Section XI of the Scope of Work, a schedule for submission of detailed work plans and additional documents will be submitted within two months from entry of the Consent Decree. The schedule will identify specifically when the Phase I work plans, Health and Safety Plan, Quality Assurance Project Plan, Phase I Engineering Report, and Phase I progress reports will be delivered. It will also describe the bases for establishing a schedule for the Landfill Closure Plan, Alternative

Water Supply Plan, Plan for Institutional Controls, and Phase II Progress Reports.

The EPA will be kept informed of project activities through the submittal of progress reports and, if necessary, through project meetings with appropriate County representatives. The Consent Decree specifies that the governments ~~Ecology~~ will take the lead in community relations. Consequently, the County will not be directly responsible for informing the community of project activities, although the County plans on maintaining an active role.

CONSTRUCTION OF THE REMEDY

The construction of the remedy (Phase II) will consist of three interrelated, and possibly overlapping, ground water extraction, treatment, and discharge systems (south, west, and east). The ground water extraction systems will each consist of several deep wells, serviced by submersible or turbine pumps and connected to the treatment system(s) by a tight-line header assembly. The treatment system(s) will consist of one or more air stripping units set on a concrete slab foundation, with appropriate utility connections for electricity and (possibly) natural gas; the need for stripping tower air abatement will be assessed as described in ~~Section V.D. of~~ the Scope of Work. Treatment system effluent will ~~be~~ conveyed to the discharge point(s) by pipeline, with appropriate outfall structure(s) constructed to minimize erosion and promote dispersion. To the extent practicable, system components (wells, header assemblies,

discharge lines, etc.) will be located below ground to minimize damage from freezing and vandalism. — aesthetics (community relations?)

These components will be constructed based on the Phase II Plans and Specifications (see Section XI of the Scope of Work), which will be developed from the data generated during the Phase I investigation and pilot studies. Although some of the remedial components (such as the treatment system(s)) could be designed based on available information, the use of Phase I site characterization data and observations of pilot system performance should provide a more efficient, cost-effective design.

A construction quality assurance/quality control (QA/QC) plan will be submitted before construction begins. Methods to assure material quality and proper construction techniques will be developed and incorporated into the construction QA/QC plan. The design consultant will provide construction management, construction inspection, design support, and shop drawing review services during construction. This will ensure adherence to the QA/QC plan. Appropriate performance bonds, as specified in the final bid documents, will be required.

The County intends to use contracting practices that will provide maximum open and free competition and that will not unduly restrict or eliminate competition. Contractor selection for construction of the (Phase II) remedial action will be accomplished in accordance with RCW procedures in awarding contracts (RCW 36.32.250), using standard Spokane County procurement procedures (these RCW requirements are presented in Appendix D). Contractor selection will also be conducted in accordance with

federal procurement guidelines (40 CFR, part 33). The invitation for bids will be sent to known interested parties and will be advertised in the legally-designated newspaper for Spokane County, a locally-circulated newspaper, and a regionally-circulated newspaper. Contractor scope of work and recommended alternatives will be reviewed by the County's design consultant. Contractor bids will be reviewed and verified, and the construction awarded to the lowest responsible bidder. Following completion of all the required legal documents and public notice, a contract will be negotiated and signed between the County and the Contractor, and construction of the remedial action (Phase II) can be initiated.

Construction of the remedial action will be accomplished based on Phase II Work Plans and Phase II Plans and Specifications. A Phase II construction schedule will be developed in conjunction with the schedule for submittal of Phase II deliverables discussed in Section XI of the Scope of Work.

Phase II progress reports will be submitted to EPA for review. These progress reports will be submitted either periodically or at the completion of major Phase II construction milestones.

Following completion of construction, a Phase II Construction Documentation Report will be submitted to the EPA. This report will document Phase II construction activities, including any significant variations from, or modifications to, the Phase II Plans and Specifications or Work Plans.

Phase II construction oversight will be accomplished by the County's design consultant and/or other County representatives. To provide verification of compliance with Phase II Plans and Specifications, oversight will include field monitoring of construction and review of contractor-selected materials and construction methods. A construction manager will be designated by the County to be a focus for oversight activities and to ensure that the intent of the Phase II Plans and Specifications are being followed and the construction schedule is being achieved.

MANAGEMENT AND OPERATION OF THE PROJECT

During clean-up operations, numerous activities involving various different kinds of skilled personnel will be undertaken at the same time. As a result of the complexity of this project, complete and effective project management is essential for proper execution. Thus, a well-defined management structure, as described below, will be established at the beginning of the project.

Spokane County will designate a County employee as Project Coordinator. The Project Coordinator will have overall responsibility for project supervision throughout clean-up. The Project Coordinator will be a professional engineer with qualifications necessary for satisfactory performance of the job, including experience in managing large construction projects.

The Project Coordinator's responsibilities will include assessment of overall project progress and coordination; interaction with ~~other interested parties, such as~~ EPA, the federal and state

regulatory agencies and local citizen groups on behalf of the County; and the undertaking of any community relation activities that the County agrees to perform at the request of the United States and the State of Washington. The Project Coordinator will be responsible for budget review and direct coordination with the design consultant.

The Project Coordinator will also oversee the activity of several entities responsible for the individual segments of the remedial program, although it is anticipated that a single design consultant firm will be retained to provide management and engineering expertise for the following tasks:

- o Phase I Investigation and Pilot Studies;
- o Preparation of Work Plans and other Deliverables (see Scope of Work, Section XI); and
- o Consulting/Design Services
  - design of extraction, treatment, and discharge systems,
  - monitoring evaluation,
  - construction oversight,
  - facilities start-up,
  - facilities operations and maintenance plans.

A single point of contact will be established within the design consultant firm to facilitate communications with the Project Coordinator. Individual Task Managers will be assigned to handle internal communications and provide technical oversight and quality control.

Contractors will be retained to implement Phase II of the Remedial Action. It may also be necessary to retain contractors

for construction of some of the Phase I components and to provide occasional O&M services for the extraction, treatment, and discharge system. However, the County plans on using their own personnel to operate the facilities based on the facilities operations and maintenance plans to be developed by the design consultant.

Because this project is anticipated to generate a large volume of data, a computerized data management system will be established to effectively store and retrieve the necessary information. Data will be provided from all onsite task functions to this system, and the system will be available for all tasks.

The management system will provide cost-effective project direction by minimizing the number of decision makers and streamlining communications. It will assure that the Project Coordinator is able to provide adequate project oversight and serve as a focus for remedial activities, while allowing the design consultant to implement the remedial action in a timely and cost-effective manner.

COST DATA

Because it is paying between about 30 and 50 percent of the total estimated costs, Spokane County has a strong incentive to conduct the remedy at this site in a cost-effective and efficient manner. Thus, the County intends to monitor closely the progress of the clean-up and the costs incurred.

A total project cost of about $9.4 million (present worth) was estimated in the FS. However, this estimate does not include

already incurred costs (more than $1.7 million) or other additional costs that may be incurred due to subsequent modifications to regulatory requirements. Both the County and the EPA consider a cost for remedial action of about $14 million more reasonable than the $9.4 million estimate contained in the FS.

Table 2 presents the proposed construction sequence and summary cost estimates for the remedial action. Initiation of remedial activities (first year) is assumed to start once the Consent Decree has been lodged with the court. The timing of remedial activities presented in this table should be considered preliminary and is intended solely for the purposes of this request for preauthorization. As stated in Section XI of the Scope of Work, a schedule for work plans and other deliverables (which will be based upon a schedule for completion of project tasks) will be submitted within two months of entry of the Consent Decree. However, since this schedule is subject to EPA approval, the EPA has sufficient assurance that the project will be accomplished in a timely manner.

The County's proposed procurement practices were described in the Construction of the Remedy section of this document. These practices will ensure cost-effective choice of general contractors. Proper oversight and management of the project will also ensure efficient cleanup.

ASSURANCE OF STATE COOPERATION AND O/M ARRANGEMENTS

The State of Washington will be a party to the Consent Decree in this matter (which includes the Scope of Work). Addi-

TABLE 2

PROPOSED WORK SEQUENCE, INCLUDING COST ESTIMATES:

Description of Work	Cost
1st Year	$2,000,000
Data review/design Phase I Construction of pilot systems (Phase I) Additional monitoring wells Air monitoring Alternate water supply	
2nd Year	$1,600,000
Air Monitoring Phase I evaluation and report Start Phase II design	
3rd Year	$5,600,000
~~Design Phase II~~ pymt Start Phase II Construction Begin start-up Additional monitoring wells	
4th Year	$3,000,000*
~~Complete Phase II construction~~ pymt Continue start-up and verification ~~Additional monitoring wells~~ pymt Begin operation and maintenance	
5th Year	$ 200,000
Complete start-up and verification Operation and maintenance Periodic evaluation and reports	
ALL FOLLOWING YEARS (total cost, present worth)	$2,000,000

*includes payment for RI/FS ~~(estimated)~~

tionally, the State will assist the county in funding the remedial action through grant monies and state mixed funding. The State of Washington maintains that such participation constitutes agreement as to the appropriateness of the remedy and assurance of State cooperation.

The County plans on providing for long-term operation and maintenance of the site. A remedial action fund is to be established to provide operating capital for the design, construction, operation, and maintenance of the remedial action. Contributions to the fund are to be made by the PRPs on a schedule of annual payments designed to ensure sufficient monies are available when needed. The proposed schedule for payment is provided for in the Obligations of Consenting Parties section within the Consent Decree (Appendix B).

SCHEDULE FOR AND DOCUMENTATION OF CLAIMS AGAINST THE FUND

As a part of developing cost estimates for the remedy at this site, the County and its consultant have analyzed how the costs would be incurred over time. The goal of this analysis was to ensure that the remedial action trust will, at all times, have sufficient funds for the work to proceed without interruption. Accordingly, the PRPs (the County and Key Tronic) have proposed a schedule of payments in accordance with the Consent Decree. In addition, the County proposes that reimbursement from the Fund be scheduled. The schedule for reimbursement calls for payments from the Fund at those points during the work at which several Tasks will have been completed and at completion of system start-up. The schedule is set out in more detail in Table 3.

TABLE 3

SCHEDULE OF EPA PAYMENTS FOR THE
COLBERT LANDFILL REMEDIATION

Payment No.	Amount	Schedule*
1	$560,000 ~~(40%)~~	Completion of Phase II Design (3 years after entry of the Consent Decree)
2	$560,000 ~~(40%)~~	Completion of Construction (4 years after entry of the Consent Decree)
3	$280,000 ~~(20%)~~	Completion of Startup and Verification (5 years after entry of the Consent Decree)

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* Specific tasks are more thoroughly described in Table 2 of this document. Payments are to be made following completion of tasks, with documentation by appropriate major milestone reports.

WORKER TRAINING, HEALTH AND SAFETY

As specified in Section XI of the Scope of Work, a Health and Safety Project Work Plan will be developed for this site. This health and safety plan will be developed to protect individuals from the hazards that might be encountered during remedial action activities at the site. It will be developed based on the toxicological properties of the contaminants present at the site, as well as consideration of relevant government regulations and guidances, including "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" (U.S. Department of Health and Human Services 1985), and EPA's "Standard Operating Safety Guides" (Nov. 1984 FOAG). The Health and Safety Plan, as with the other work plans discussed in

Section XI of the Scope of Work, requires the approval of the EPA prior to implementation.

COMMUNITY RELATIONS

The County recognizes that the community should be kept informed during the clean-up and that community concerns should be considered to the extent practicable. Although the County intends to maintain an active role, Section XXIX of the Consent Decree specifies that the Government Plaintiffs (EPA and Ecology) will be the lead for community relations, while the County will be responsible for helping to coordinate and implement community relations for the site.

The County will (at a minimum) assist in:

- distribution of fact sheets;
- coordination of public meetings; and
- supply of appropriate documents and information for information repositories.

The County is ready and willing to implement any part of the Community Relations Plan which EPA and Ecology deem "appropriate." The County will cooperate with and support the Governments' community relations effort, and will provide any information needed. Additionally, the County will undertake other community relations activities on request from the EPA and Ecology.

MONITORING AND DOCUMENTATION

Spokane County recognizes that, pursuant to Section 300.69 of the NCP, documentation must be maintained for all phases of response action at this site. The remedial action has not progressed to the point where a detailed documentation plan has been developed. However, appropriate documentation of remedial activity will be accomplished through the submittal of work plans and other deliverables, as outlined in Section XI of the Scope of Work. Specifically, documentation will include:

- Health and Safety Plan,
- Quality Assurance Project Plan,
- Phase I Pilot Well Plan,
- Phase I Ground Water Monitoring Plan,
- Phase I Treatment and Discharge Plan,
- Phase II Extraction Well Plan,
- Phase II Ground Water Monitoring Plan,
- Phase II Treatment and Discharge Plan,
- Landfill Closure Plan,
- Alternative Water Supply Plan,
- Plan for Institutional Controls,
- Phase I Engineering Report,
- Phase II Plans and Specifications,
- Phase II Construction Documentation Report; and
- Phase I and Phase II Progress Reports.

The Quality Assurance Project Plan and the various work plans will provide documentation of procedures and practices,

construction methodology, and material requirements to be followed during accomplishment of all aspects of the remedial action. Phase II Plans and Specifications will document the final remedial design; while the Phase II Construction Documentation Report will document the as-built status of the remedial action following completion of construction.

Progress reports will be issued by the County or their design consultant periodically throughout the remedial action. As specified in the Consent Decree, progress reports will be submitted monthly during periods of during construction and quarterly thereafter.

The County will maintain all records -- including sampling and QA/QC reports -- generated as a part of the clean-up efforts for a minimum of ten years following termination of the Consent Decree. At the end of ten years, the County will offer to turn such documents over to the EPA before destroying those documents. In addition, the County will maintain any records that the EPA requests be maintained beyond the ten-year period for cost recovery purposes. All major reports and all documentation submitted in support of requests for reimbursement from the Fund will be turned over to the EPA ten years after termination of the Consent Decree.

CONCLUSIONS

The information presented in this Request for Preauthorization has been prepared to meet the prior notification and prior approval requirements of Section 300.25(d) of the NCP for EPA mixed funding. Due to the present status of the remedial action,

some of the informational requests outlined within the EPA Preauthorization Guidance Document (EPA 1988) could not be addressed in detail. However, the attached Scope of Work documents the EPA's review and approval authority for specific aspects of the remedial action for which detailed information is not presently available.

EPA mixed funding is an integral part of the Consent Decree negotiated between the EPA and Spokane County. Final agreement and lodging of the Consent Decree cannot be accomplished until this Request for Preauthorization has been reviewed and approved.

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